USDA ARS Linking Ag, Nutrition, and Health

The federal government became directly involved in the vitamin and mineral content of our diet at the beginning of World War II. The spark for federal authority was that one-third of all U.S. recruits were not acceptable for battlefield training because they were nutrient deficient. Many were suffering from pellagra, a disease caused by inadequate niacin (vitamin B3).

To solve the problem, the U.S. government called for voluntary niacin fortification of bread. By 1943, the first War Food Order required that all flour sold in interstate commerce be enriched with several vitamins and iron.

These regulations more or less coincided with the issuing of the first Recommended Dietary Allowances (RDAs) for vitamins and minerals. U.S. Department of Agriculture nutritionists expanded the guidelines in the early 1950s to include the number of recommended servings of each food group to make it easier for people to get RDAs of each nutrient.

This approach only reinforced the federal government's responsibility to develop and gather knowledge about exactly how much of what components are in foods. Generating this information and collecting it in food composition databases became important responsibilities of the Agricultural Research Service (ARS) when the agency was created in 1953.

Today, businesses, researchers, and individuals around the world depend on these databases for accurate and objective nutrition information. (See "Building a One-Stop System for Food Data.")

Food composition data provides the basis for calculating the numbers required on the Nutrition Facts labels that must, by law, be on every food product before it can appear on store shelves. While large companies may be able to afford to do their own composition analysis on new foods, many small companies rely on the information in the ARS food composition databases.

When human nutrient requirements were being established, ARS research played a major role in setting the majority of the recommendations. Although we know all the essential nutrients, new functions for them continue to be discovered. ARS research has shifted to nutritional health maintenance and chronic-disease prevention, since the largest share of health costs and deaths in the United States are now related to chronic disease.

This issue of *AgResearch* spotlights ARS's human nutrition program and our various food composition databases. https://agresearchmag.ars.usda.gov/2018/mar/?t=tableofcontent

This is a publication that details the major scientific accomplishments of the intramural human nutrition program of USDA from Atwater's initial efforts to the end of the first decade of the 21st century. https://www.ars.usda.gov/ARSUserFiles/oc/np/HistoryofHumanNutritionResearch/HistoryofHumanNutritionResearch.pdf

USDA ARS Human Nutrition National Program: https://www.ars.usda.gov/nutrition-food-safetyquality/human-nutrition